

Notice of Allowability

Application No.

10/706,386

Examiner

Sandra K. Poulos

Applicant(s)

WENTWORTH ET AL.

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/01/06.
2. ☒ The allowed claim(s) is/are 1-23 and 25-50.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 5/19/06
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Art Unit: 1714

Examiner's Amendment

1. The terminal disclaimer filed on 5/5/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,884,832, US Patent No. 6,969,737, US Patent No. 6,858,664, any patent granted on Application Number 10/706,196 and any patent granted on Application Number 10/718,223 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Examiner's Amendment

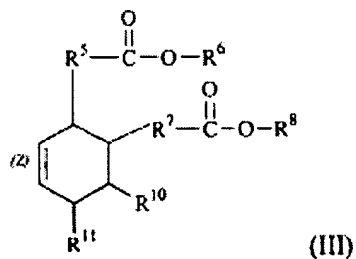
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Replace the title with the following "Vulcanized rubber composition with a liquid adhesion promoter containing an adhesive resin and ester".

4. Authorization for the following examiner's amendment was given in a telephone interview with Richard Anderson on May 19, 2006.

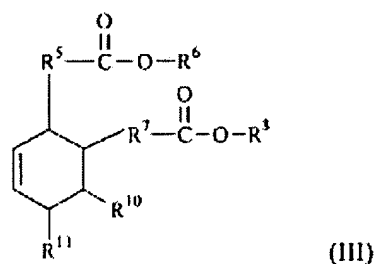
5. The application has been amended as follows:

Claim 2: remove the following structure:



and insert the following structure:

Art Unit: 1714



Cancel Claims 24 and 25.

Claim 34: Entirely replace claim 34 with “The method in accordance with claim 49, wherein the ester is a combination of formula I, II, III, and IV.”

Claim 35: Remove “The rubber composition in accordance with claim 34” and insert “The method in accordance with claim 34”.

Claim 36: Remove “The rubber composition in accordance with claim 35” and insert “The method in accordance with claim 35”.

Claim 37: Remove “The rubber composition in accordance with claim 35” and insert “The method in accordance with claim 35”.

Claim 38: Remove “The rubber composition in accordance with claim 35” and insert “The method in accordance with claim 35”.

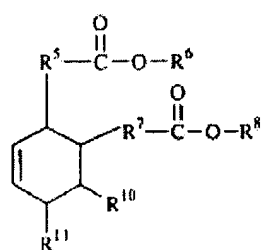
Claim 39, line 1: Remove “R²”.

Statement of Reasons for Allowance

6. The present claims are allowable over the closest prior art D'Sidocky et al (US 5,985,963), Oshiyama et al (US 5,985,963), Singh et al (US 5,298,539), EP 1022306, and Honda et al (US 3,525,703).

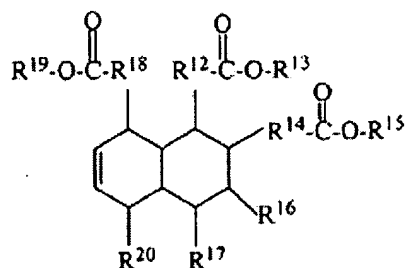
Art Unit: 1714

The present claims are drawn to a vulcanized rubber composition with a liquid adhesion promoter containing an adhesive resin, a vulcanizing agent, a reactive diluent, and an ester of formula:



(III)

or



(IV)

D'Sidocky discloses vulcanized rubber compositions that exhibit good adhesion properties to aramid reinforcements in the tire. The composition comprises melamine adhesive resins. Table 1 discloses methylene ester of rosin in the composition.

D'Sidocky does not disclose esters that meet the requirements of the formulae in the present claims.

Oshiyama discloses a fiber treating process for which is suitable for tire cords using esters that correspond to the esters of formulas 1 and 2, embodiments that are now cancelled. Oshiyama does not disclose an adhesive resin.

Thus, the combination of D'Sidocky and Oshiyama is no longer relevant prior art against the current claims because reference contains an ester of formula III or IV above.

Singh discloses additives for improving tire cord adhesion and toughness of vulcanized rubber compositions using derivatives of melamine, acetoguanamine, and benzoguanamine as adhesion promoters.

Singh does not disclose esters that meet the requirements of the formulae in the present claims.

Art Unit: 1714

EP 1022306 discloses a vulcanized rubber composition comprising 0.2 to 20 parts (preferably 0.5 to 5 parts) of an ester compound obtained by reaction of alcohols with a fatty acid. The rubber can be natural rubber, styrene butadiene rubber, polybutadiene rubber, and isoprene rubber or combinations. The rubber composition is excellent in adhesion between vulcanized rubber and steel and the like without deteriorating mechanical properties after vulcanization and has good processability. The alcohols used in the composition include 2-ethylhexyl alcohol and oleyl alcohol. The fatty acid includes castor oil fatty acid or safflower oil fatty acid. Castor oil is mainly comprised of a C₁₈ unsaturated fatty acid. EP 1022306 does not contain esters of formula III or IV above.

Thus, the combination of Singh and EP 1022306 is no longer relevant prior art against the current claims because neither reference contains an ester of formula III or IV above.

Thus, it is clear that the above references do not disclose or suggest the claimed invention.

In light of the above, it is clear that rejections of record are untenable and thus the present claims are passed to issue.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1714

Honda et al in US 3,525,703 discloses adhering tire rubber to synthetic fiber by using a resorcinol-formaldehyde resin, a rubber latex, and an ester of formula II (claim 3).

Kuceski in US 4,173,552 discloses esters of such alcohols and aliphatic dicarboxylic acids used as additives in the vulcanization of rubbers.

Klosowski et al in US 2005/0194752 is a jointing composition with esters, adhesives, and polymers.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:30-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP

Sandra K. Poulos

Vasu Jagannathan
VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700